

Claims

1. A method for generating a bit stream from an indexing tree, with the indexing tree comprising a plurality of hierarchy levels and each hierarchy level being assigned one or more index nodes (K1, K2, K3, K4), the index nodes (K1, K2, K3, K4) containing index data which is sorted in the indexing tree according to one or more predetermined criteria, wherein:
 - the index data of the index nodes (K1, K2, K3, K4) is inserted into the bit stream;
 - information is inserted into the bit stream for an index node in each case, said information indicating at which position in the bit stream the index data of one or more index nodes (K1, K2, K3, K4) of the hierarchy level which is below the hierarchy level of the respective node is located.
2. The method as claimed in claim 1, wherein the indexing tree is a B tree (= Balanced tree).
3. The method as claimed in claim 1 or 2, wherein the index data is sorted lexicographically in the indexing tree.
4. The method as claimed in one of the preceding claims, wherein the index data is inserted into the bit stream according to the depth-first ordering principle.
5. The method as claimed in one of the preceding claims, wherein the index data comprises paths of a document structure tree consisting of at least one root node and a plurality of leaf nodes.

6. The method as claimed in claim 5, wherein the index data contains the value instances of the paths and the positions of the value instances in the document which is represented by the document structure tree.
7. The method as claimed in claim 5 or 6, wherein the index data comprises the number of paths in an index node (K1, K2, K3, K4).
8. The method as claimed in one of the claims 5 to 7, wherein the paths comprise absolute paths which start from the root node and lead to a leaf node.
9. The method as claimed in one of the claims 5 to 8, wherein the paths comprise relative paths, a relative path of a respective index node (K1, K2, K3, K4) being a path relative to a path, previously inserted into the bit stream, of the respective index node (K1, K2, K3, K4) or of an index node (K1, K2, K3, K4) of a hierarchy level above the hierarchy level of the respective index node (K1, K2, K3, K4).
10. The method as claimed in claim 9, wherein the paths inserted into the bit stream are the paths of the index node whose index data is inserted into the bit stream as the first index data of a hierarchy level in a reverse sequence to the sequence in which the index data is arranged in the index node (K1, K2, K3, K4).
11. The method as claimed in one of the claims 5 to 10, wherein the paths comprise description elements of an XML document (XML = Extensible Markup Language).

12. The method as claimed in claim 11, wherein the paths are XPATH paths of the XML document.
13. The method as claimed in one of the preceding claims, wherein the index data is coded in binary by means of a coding method, in particular by means of an MPEG coding method.
14. The method as claimed in claim 13, wherein the coding method is an MPEG7 coding method.
15. A method for coding a data structure, wherein the data elements of the data structure are indexed in an indexing tree, with a bit stream according to one of the preceding claims being generated and the bit stream being part of the coded data stream.
16. A method for decoding a data structure, wherein the method is embodied in such a way that the data structure coded according to claim 12 [sic] is decoded.
17. A method for coding and decoding a data structure, comprising the method as claimed in claim 15 and the method as claimed in claim 16.
18. A coding device by means of which a method as claimed in claim 15 can be performed.
19. A decoding device by means of which a method as claimed in claim 16 can be performed.
20. A device for coding and decoding a data structure by means of which a method as claimed in claim 17 can be performed.